SANDIA REPORT
SAND 2008-xxxx
Unclassified Unlimited Release
Printed March 2008 2008

Supersedes SAND 2007-2453
Dated April 2007

Sandia National Laboratories, California Pollution Prevention Program Annual Report

February 2008

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ABSTRACT

The annual program report provides detailed information about all aspects of the SNL/CA Pollution Prevention Program for a given calendar year. It functions as supporting documentation to the *SNL/CA Environmental Management System Program Manual*. The program report describes the activities undertaken during the past year, and activities planned in future years to implement the Pollution Prevention Program, one of six programs that supports environmental management at SNL/CA.

Contents

Tables

Figures

Summary of Document Changes

Significant changes made to the 2008 edition of the Pollution Prevention Program Report are summarized in Table 1.

Table 1. Summary of Significant Changes to Pollution Prevention Program Report

Section	Page	Change
1.0	7	Updated change in funding source for program.
2.0	7-13	Regulatory changes that occurred in 2007 are summarized and included in Table 2.
2.0	13	Updated summary of audits and assessments for 2007.
3	14	Updated Table 3 to reflect versions and dates for technical work documents. Added two new documents that provide operational control AP 800020, Management of Waste Lamps and OP 471680, IDT.
4.0	14-15	Updated Table 4 to add one regulatory document required under the DOE Order 450.1. and to delete one document specifically the Waste Minimization Certification which was transferred to the Waste Management Program. Document requirements are discussed and included in Table 4.
5.0	17-18	Updated Table 5 to add two training requirements.
6.0	18-22	Updated performance measures to include FY2007 data.
7.1	23	Updated risk assessment for 2008 risks.
8.1	25	This section describes follow-up on results from 2006 Line performance assessment.
8.2	26	Includes an updated program document review form
8.3	26	Summarizes the results of the 2007 Line Performance assessment of the site's compliance with the requirements to purchase EPEAT computers and biobased products specifically penetrating oils and hydraulic fluids.
9.0	28-29	Updated accomplishments to reflect 2007 activities
10.0	29	Updated trends in regulatory requirements, assisting Maintenance to change to purchasing re-refined or bio-based oil for automotive operations and budget reduction
11.0	29-30	Updated targets and actions. Retired 7 targets for procurement of environmentally friendly materials, minimizing hazardous waste, minimizing landfill waste, and minimizing energy use.
App A	32	Includes an updated spreadsheet of the types of waste streams recycled at SNL/CA in 2007.
App B	33	Includes an updated Table of staff and assignments.
App C	34-38	Includes an updated Program Risk Assessment completed in January 2008.
App D	39-43	Includes an updated Line Assessment of site's compliance with the requirements to purchase EPEAT computers and bio-based products specifically penetrating oils and hydraulic fluids. completed in December 2007.

1 Program Description

The Pollution Prevention Program is one of six programs under the Environmental Management Department at Sandia National Laboratories, California (SNL/CA). The Program provides SNL/CA guidance and specific strategies, activities, and methods to reduce the quantity and toxicity of waste and pollutants, conserve energy and resources, and purchase environmentally preferable products. The Pollution Prevention Program is part of the SNL/CA Environmental Management System (EMS) and maintains responsibility for implementing the DOE Pollution Prevention performance based goals. The Program is an indirectly funded program, supported through the Integrated Enabling Services Strategic Management Unit.

This program report provides detailed information about all aspects of the Pollution Prevention Program. It provides supporting documentation to the *SNL/CA EMS Program Manual.* The program report is updated annually to reflect the dynamic nature of program operations, accomplishments, and goals.

Specific responsibilities of the Pollution Prevention Program at SNL/CA include:

- Provide support to SNL/CA Facilities in the implementation of sustainable design for new and renovated facilities.

- Develop and implement Environmental Management System goals, targets and tasks in conjunction with DOE Headquarter goals.

- Facilitate the execution of Environmentally Preferable Purchasing (EPP), especially those product categories related to general office supplies and Facilities and Maintenance operations to influence the purchasing of EPP products.

- Provide assistance to line organizations in implementing effective reuse of equipment and chemicals.

- Develop and coordinate recycling programs. Appendix A contains information about the waste streams that are recycled or reused.

- Provide assistance in developing and communicating strategies to reduce the use of SNL/CA's natural resources.

2 Regulatory / Corporate Drivers

Environmental compliance drivers include laws, regulations, orders, directives, and other corporate and site-specific requirements. The drivers that are applicable to the Pollution Prevention Program are listed and summarized in Table 2.

The Pollution Prevention Program uses a variety of sources to stay current on applicable compliance drivers. The primary source used is the Sandia corporate notification service provided by the legal staff. Sandia legal monitors DOE requirements and federal, state, and local government publications for regulatory issues applicable to SNL operations. These notifications are then reviewed for applicability to SNL/CA operations. Pollution Prevention receives notifications weekly, which are then reviewed for applicability to SNL/CA operations. Pollution Prevention also receives and reviews the *California Environmental Insider*, a California-specific publication, issued twice per month, which summarizes current regulatory issues and changes that affect activities in the state. Both federal and state issues of concern are addressed in this publication. Additional sources of information on regulatory changes include direct communication with NNSA/SSO and regulating agencies, and periodic review of agency web sites. New requirements are incorporated into program activities and communicated to the site through electronic notifications, the ES&H Interdisciplinary Team process, self-assessments, targeted presentations, program documents and the Pollution Prevention web page.

In 2007, AB 1477, California made changes to the existing Certified Appliance Recycling (CAR) program to clarify the criteria for recyclers to demonstrate their ability to properly remove and manage "materials that require special handling" from discarded major appliances. As of January 1, 2008, refrigerant service technicians who are certified under Section 608 of the Clean Air Act may remove refrigerants from discarded major appliances without being certified by DTSC to recycle appliances.

Table 2. Compliance Drivers for Pollution Prevention Program

Driver	Summary	Regulating Authority
Federal Laws		
Resource Conservation and Recovery Act (RCRA)	RCRA establishes a cradle to grave management framework and a regulatory system for solid waste. Waste generators must have a waste minimization program in place that reduces volume and toxicity of waste. Another section of the Act requires procurement of products that container recycled-content or recovered materials.	Environmental Protection Agency (EPA)
Pollution Prevention Act of 1990	The Pollution Prevention Act of 1990 establishes a national policy for Pollution Prevention, and introduces what is known as the Pollution Prevention hierarchy. The hierarchy requires facilities to prevent pollution at the source whenever feasible, followed by reuse/recycle, then treatment, and disposal.	EPA
Clean Water Act (CWA)	The CWA requires industrial storm water discharge facilities to have an onsite Pollution Prevention plan. It also directs the EPA to promote the inclusion of Pollution Prevention technologies in industrial effluent standards and promote source reduction in industrial water effluent guidelines.	EPA
Clean Air Act (CAA)	The Clean Air Act directs EPA to consider Pollution Prevention technologies when selecting Maximum Achievable Control Technologies (MACT) for sources of Air Pollutants.	EPA
Energy Policy Act of 2005	The Energy Policy Act of 2005 requires the Secretary of Energy to work with federal agencies to significantly reduce the use of energy and promote energy efficiency and the use of renewable energy technologies.	EPA

Table 2. Compliance Drivers for Pollution Prevention Program (cont.)

Driver	Summary	Regulating Authority
DOE Directives		
DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets	DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets establish the general requirements for capital assets, and include numerous Pollution Prevention and sustainable design concepts and requirements.	DOE
DOE Order 430.2A Departmental Energy and Utilities Management	DOE Order 430.2A Departmental Energy and Utilities Management, establishes energy requirements as described in EO 13123 and includes requirements to reduce energy consumption, green house gas emissions and use of renewable resources. This Order requires the application of sustainable design principles to new buildings and building alterations, and the submission of a Sustainable Design Report.	DOE
DOE Order 435.1, Radioactive Waste Management	DOE Order 435.1, Radioactive Waste Management requires waste minimization and Pollution Prevention to be implemented at all facilities that manage radioactive waste.	DOE
DOE Order 450.1, Change 2, Environmental Protection Program	DOE Order 450.1 Environmental Protection Program establishes the requirements and responsibility for an environmental protection program and institutes the requirements for opportunity assessments. This order requires the Waste Minimization Program Plans, an Annual Waste Reduction Minimization Report, and a Pollution Prevention Awareness Program	DOE

Table 2. Compliance Drivers for Pollution Prevention Program (cont.)

Driver	Summary	Regulating Authority
Executive Orders		
Executive Order (E.O.) 12088, Federal Compliance with Pollution Control Standards	E.O. 12088, Federal Compliance with Pollution Control Standards makes the head of each Federal Agency responsible for the prevention of environmental pollution at Federal facilities and as well as for all activities that are under the control of that agency.	DOE as responsible federal agency for SNL facilities
E.O. 12856, Federal Compliance with Right-to-know Laws and Pollution Prevention	E.O. 12856, Federal Compliance with Right-to-know Laws and Pollution Prevention requires Federal agencies to reduce toxins entering waste streams and release to the environment through source reduction; to report toxic-chemicals entering the waste stream and released to the environment; to improve emergency planning, response, and accident notification; to encourage markets for clean technologies and safe alternative to hazardous substance and toxic-chemicals; and to set waste reduction goals.	DOE as responsible federal agency for SNL facilities
E.O. 13423 Strengthening Federal Environmental, Energy, and Transportation Management	EO13423 Strengthening Federal Environmental, Energy, and Transportation Management strengthens and establishes new and updated goals, practices, and reporting requirements for environmental, energy, and transportation performances and accountability.	DOE as responsible federal agency for SNL facilities

Table 2. Compliance Drivers for Pollution Prevention Program (cont.)

Driver	Summary	Regulating Authority
California Laws		
California Health and Safety Code, Div 20, Ch 6.5, §§ 25244.12-25244.24.) Hazardous Waste Source Reduction Act of 1989	The Hazardous Waste Source Reduction and Management Review Act of 1989, also known as Senate Bill 14, requires hazardous waste generators to complete a Source Reduction and Evaluation Review and Plan. Each generator regulated under the Act must conduct the source reduction evaluation review and plan every four years.	Department of Toxic Substances Control (DTSC)
California Health and Safety Code, Div. 20, Ch. 6.5, §§25202.9	Waste Minimization Certification: The waste generator must certify annually that the facility has a program in place to reduce the volume and toxicity of all hazardous wastes.	DTSC
California Health and Safety Code, Div. 20, Ch. 6.5, §§25211	Appliance Recycling: DTSC established a certification program for individuals and businesses that process major appliances for scrap. Before an appliance can be scrapped it is required that special materials such as refrigeration fluid (CFCs), used oil, and mercury be removed prior to the disposal of the major appliances.	DTSC

Table 2. Compliance Drivers for Pollution Prevention Program (cont.)

Driver	Summary	Regulating Authority
California Regulations		
Title 22 Code of Regulations (CCR) Div. 4.5, Ch. 16. Recyclable Materials	Recyclable Materials: The management of recyclable materials. Mandates that specific waste streams are recycled instead of land filled.	DTSC
Title 22 CCR, Div. 4.5, Ch. 31. Waste Minimization (SB14)	Hazardous Waste Source Reduction and Management Review:. Every four years the site must review its operations and prepare a report.	DTSC
Title 22 CCR, Div 4.5. Chapter 23, Universal Waste Management	Universal Waste Management: Requires universal waste generators register with the State, manage waste appropriately and report activity.	DTSC
Public Resource Code, §§ 42490-42499. Cell Phone Recycling Act	Cell Phone Recycling Act: Requires all vendors of cell phones to have a system in place to recycle their consumer cell phones.	DTSC
Public Resource Code, §§ 42961 Tire Waste Manifest System	Tire Waste Manifest System: Requires generators of waste tires to properly manage waste tires and participate in the Waste Tire Manifest Program.	County of Alameda Environmental Health Department

The Pollution Prevention Program is periodically audited by DTSC, DOE, Alameda County Environmental Health Department, Sandia Corporation, and Lockheed Martin, Sandia's parent company. The Pollution Prevention Program activities were also included in two surveillance audits conducted in 2007 to maintain ISO 14001 registration. No non-conformances were identified in the Program.

The Pollution Prevention Program Lead and Project Lead communicate with NNSA/SSO counterparts regularly to keep them informed of issues and trends of importance to the program. The Pollution Prevention Program staff at SNL/CA work together with the SNL/NM counterparts and NNSA/SSO to resolve concerns and to develop effective approaches to program implementation. The Pollution Prevention Program and SSO maintain an open and cooperative relationship.

3 Operational Controls

The Pollution Prevention Program uses technical work documents, administrative and engineering controls to control operational aspects of the program.. Table 3 lists the technical work documents applicable to the Pollution Prevention Program. They include the Hazardous Waste Facility Permit, an ES&H Manual supplement document "GN470075 Guidelines for Waste Generators at SNL/CA," administrative procedures, preliminary hazard screening documents, and other site-specific requirements. Administrative controls include checklists, reporting forms, site documentation review, and collection point locations for recyclables and construction debris to minimize trash generation and maximize recycling and reuse. Administrative controls also include blocking the ordering of virgin products or products that do not meet EPA Guidelines to improve the purchasing of required recycled-content products.

Table 3. Technical Work Documents for the Pollution Prevention Program

Title	Current Version
California Environmental Protection Agency, Department of Toxic Substances Control (CAL-EPA, DTSC) Hazardous Waste Facility Permit	September 2005
ES&H Manual Supplement, GN470075 Guidelines for Waste Generators at SNL/CA	May 2005
SNL06A00127-003, Pollution Prevention/Waste Minimization Program Activities	February 11, 2008
AP 800020 Management of Waste Lamps at SNL/CA	9/27/2007
OP471680, ES&H, Security, and Facilities Interdisciplinary Team Process for the Evaluation of Proposed Site Projects and Activities	10/27/2005

4 Documents Produced

Table 4 identifies the documents and reports generated by the Pollution Prevention Program. One new document was added in 2007. The new document is the Federal Electronic Challenge (FEC) Annual Report. This is submitted by February 1 to FEC. One document, the Waste Minimization Certification was transferred to the Waste Management Program.

Table 4. Pollution Prevention Program Documents and Reports.

Document	Due Date	Frequency	Distribution	Purpose
Source Reduction and Evaluation Review and Plan (SB-14)	September 01	Every 4 years	CAL-EPA/DTSC	State requirement
Notification for Handlers/Handlers-Recyclers of Universal Waste Electronic Devices and/or CRTs: Provides one-time notification site generates universal waste.	February 01	One-time	CAL-EPA/ DTSC	State requirement
Annual Report for Handlers/Handlers-Recyclers of Universal Waste Electronic Devices and/or CRTs: Requires annual reporting of a facility's universal waste generation, treatment and disposition data.	February 01	Annual	CAL-EPA/ DTSC	State requirement
Annual Waste Generation and Pollution Prevention Progress Report: Provides waste generation data, recycling data, and accomplishments.	December	Annual	DOE/SSO	DOE requirement
Affirmative Procurement Report: Provides data for AP purchases including successes and failures.	December	Annual	DOE/SSO	DOE requirement
Federal Electronic Challenge Annual Report	February 01	Annual	FEC	DOE requirement
Sandia Annual Program Report: Provides a summary of Pollution Prevention activities, program and goals.	February	Annual	DOE/SSO, SNL Management	Information
Quarterly Reporting: Provides updates of Pollution Prevention Program activities.	Quarterly	Quarterly	DOE/Service Center	Information
Monthly Report: Provides updates of Pollution Prevention monthly activities	10th of each month	Monthly	DOE/SSO SNL Management	Information

5 Approved Job Descriptions, Qualifications and Job-Specific Training

Job assignments in the Pollution Prevention Program include a Program Lead, a Project Lead, and a Pollution Prevention Laborer. Job descriptions and qualifications for each assignment follow. Appendix B provides a list of personnel supporting each job assignment.
Sandia views training, development, and education as a strategic investment in Sandia's future. The policy of Sandia Corporation is to maintain a high level of technical and administrative competence in support of its mission. In support of this policy, Sandia maintains a set of general corporate training requirements that cover a wide range of areas such as security (physical, information, computer), business ethics and diversity, general ES&H, and general business processes. Standard corporate requirements are identified for each individual in the online Corporate Education, Development, and Training database at https://hrprod.sandia.gov/cfdocs/prod/hris/ctd/apps/cedtweb/comp/comp.cfm. The online database tracks completion status for all corporate training requirements and provides electronic reminders when a course is due to all Pollution Prevention personnel. Sandia training coordinators identify corporate training requirements for new hires. Sandia has developed online training courses to meet these requirements.

In addition to corporate training requirements, each program assignment has job-specific training requirements. These training requirements address safety as well as specific job functions. The Environmental Management Department Manager, Program Lead, or Department ES&H Coordinator may identify job-specific training requirements. Most of these requirements are tracked in the online database. Table 5 presents job-specific training requirements for the Pollution Prevention Program.

5.1 Pollution Prevention Program Lead

The Program Lead is responsible for management and oversight of all program activities, interacting with the DOE/SSO on all Pollution Prevention issues, interacting with state and federal regulatory agencies, and participating on the ES&H Interdisciplinary Team. Management and oversight responsibilities encompass a range of activities including budgeting, monitoring costs, identifying investments needs, task assignment and oversight, contract management, conducting program self assessments, maintaining the program website, reporting, developing operational controls, and participating in special site events and department projects. The Program Lead serves as the Pollution Prevention subject matter expert for SNL/CA. The Lead is responsible for monitoring changes in program compliance drivers and for communicating these changes to the site.

At a minimum, the Program Lead is required to hold a Bachelor of Art degree with at least 10 years experience in an environmental field, or a Bachelor of Science degree in an engineering, environmental, or science field with three years of related work experience. Desirable qualifications for this position include proficiency in technical writing, project management skills, and pollution prevention or waste management expertise. Registration as an environmental manager is optional, but encouraged, for the Program Lead position.

5.2 Pollution Prevention Project Lead

The Project Lead is responsible for management and coordination of all program activities, maintaining a positive relationship with the DOE/SSO and SNL/NM on all Pollution Prevention issues, interacting with state and federal regulatory agencies, and participating on the ES&H Interdisciplinary Team. Management and coordination responsibilities encompass a range of activities including creative thinking and implementing new ways to improve the program in its support to the site, identifying new recycling streams, task assignment and oversight, contract management, conducting program self assessments, maintaining the program website, providing Pollution Prevention awareness, data collection, reporting, developing operational controls, and providing backup support to the Pollution Prevention Laborer.

At a minimum, the Project Lead is required to hold an Associate Arts degree or a minimum of 5-years of relevant experience in pollution prevention or waste management. Desirable qualifications for this position include proficiency in technical writing, project management skills, and Pollution Prevention expertise. Registration as an Environmental Technician is optional, but encouraged, for the Program Lead-Technician position

5.3 Pollution Prevention Laborer

The Pollution Prevention Laborer is responsible for providing labor support to the Pollution Prevention Program for implementation of the recycling programs. The responsibilities include monitoring, collecting, transporting and processing of the site's non-hazardous recycled waste, performing miscellaneous tasks, such as assisting with special events, and maintaining equipment in a clean orderly fashion.

At a minimum, the Pollution Prevention Laborer is required to have a high school diploma. Desirable qualifications include experience in vehicle operations including forklifts, good customers relations skills, experience with site operations, and attention to detail. Computer skills are optional, but encouraged, for the Pollution Prevention Laborer position.

Table 5. Pollution Prevention Training Matrix

Training Requirement	Training Method	Program Lead Staff	Program Project Lead	Pollution Prevention Laborer	Frequency
Pollution Prevention Workshops	Offsite	●	●		When Available
Environmental Sustainability Network; (ESN) Federal Electronic Challenge; (FEC) and Environmental Preferable Purchases (EPP) Teleconferences	Onsite	●	●		Quarterly
Program Workshops-seminars	Offsite	●	●		When Available
ESH100 ES&H Awareness	Web based	●	●	●	Annual

FKL 153R Forklift: Operation Refresher	Sandia class		●	●	Triennial
FKL 153 Forklift: Hands on Use	Sandia class		●	●	One time only
FRP 106 Fire Extinguisher: Hands on Use	Sandia class	●	●	●	Annual
NSE100 Occupational Noise	Sandia class			●	Annual

5.4 Specialized Training

The Pollution Prevention Program has identified staff in other SNL/CA organizations who are required to be trained in the management of Universal Waste as required Title 22 CCR Ch. 23, Universal Waste Management specifically proper handling and emergency spill procedures. This is a one-time training and records are retained by the Pollution Prevention Program. These individuals support the site with collection and storage of universal waste.

6 Performance Measures

EMS objectives that are applicable to the Pollution Prevention Program include the procurement and use of environmentally friendly products and materials, the minimization of the generation of hazardous and radioactive waste, the minimization of the generation of solid waste and the minimization of site electrical and natural gas consumption. To assess performance in meeting these objectives the Pollution Prevention Program monitors waste generation, recycling of waste streams, environmentally friendly products and material purchases, and consumption of electricity and natural gas. The following summarizes the Pollution Prevention Program's progress in the last year.

6.1 Material Procurement and Use Objective

In 2007, SNL/CA's target for material procurement and use was to increase affirmative procurement in 2007 by ten percent over the fiscal year 2004/2005 average, from 81.5 to 89.6 percent of total available products procured. As shown in Figure 1, Sandia achieved an increase of approximately seven percent in affirmative procurement from 2006 to exceed the ten percent target for 2007. The increase in fiscal year 2007 was due primarily to increases in recycled content paper, filing products, carpet, and furniture. During 2007, the Green Purchasing Team continued efforts to review a variety of office product categories for procurement improvements and added another office supply company that primarily offers products with recycled content. Additionally, SNL/CA began using bio-based products in 2007, which also contributed to achieving our ten percent target.

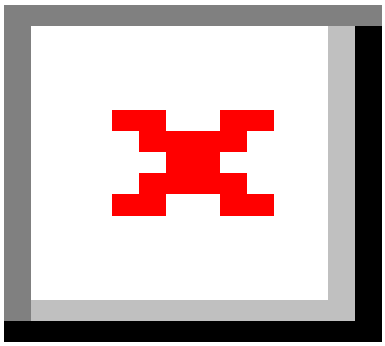

Figure 1 Procurement of Environmentally Friendly Products

6.2 Hazardous and Radioactive Waste Objectives

Although SNL/CA does not have a specific target for this objective, we strive to minimize the generation of hazardous and radioactive waste through process controls, recycling, and reapplication of chemicals from one activity to another. Figures 2 and 3 show hazardous and radioactive waste generated since 2000, respectively. Figure 2 includes the following types of hazardous waste: routine and non-routine RCRA, non-RCRA, TSCA and medical. Figure 3 includes both radioactive and mixed waste. For both categories of waste, the trend shows a steady decline in quantities generated.

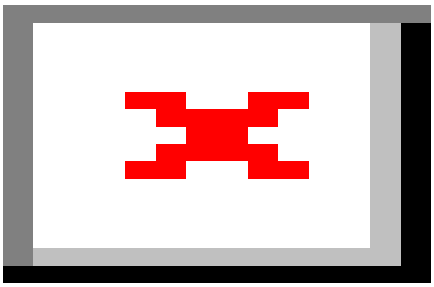

Figure 2. Hazardous Waste Generated at SNL/CA

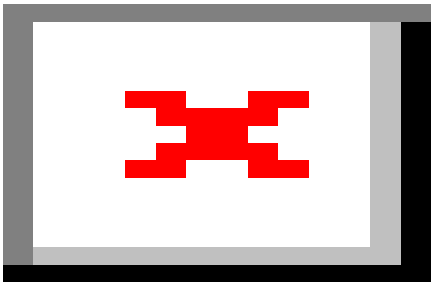

Figure 3. Radioactive Waste Generated at SNL/CA

6.3 Solid Waste Objective

SNL/CA transports non-hazardous solid waste (trash and construction debris) generated from site operations to local landfills for disposal. In fiscal year 2007, SNL/CA transported 130.7 metric tons of solid waste to landfills, a decrease of 6.3 metric tons from 2006. SNL/CA attributes the reduction in quantity of solid waste transported to landfills to increases in recycling. Figure 4 presents solid waste data for fiscal years 2003 to 2007. The solid waste data includes routine and non-routine trash and construction debris trash.

In Figures 5 and 7 the recyclable waste streams scrap metal and light tubes both significantly increase from 2006 to 2007. In 2007 two buildings were deconstructed at SNL/CA. The deconstruction projects were required to recycle as much of the buildings as possible in the Waste Management Plan provided by Pollution Prevention to maximize the recycling of the deconstruction debris. The increase in scrap metal and light tubes is attributed to these recycling requirements during the deconstruction of the two buildings. In Figure 7 the recyclable waste stream, resin bottles, has been decreasing from 2004-2007. In 2007 this waste stream was not generated. SNL/CA attributes this significant reduction to the closure of the site operation specifically the 910 Electroplating Lab.

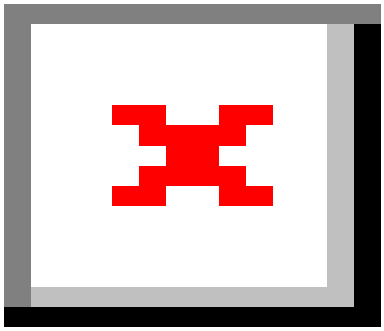

Figure 4. SNL/CA Landfill Waste

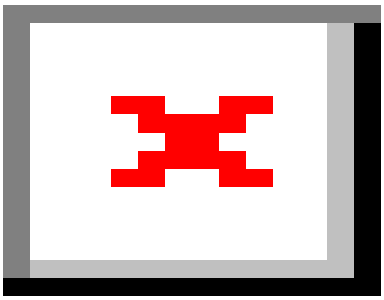

Figure 5. Recycled Scrap Metal, Paper and Wood

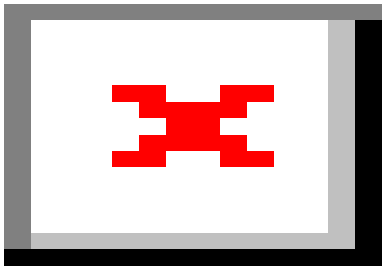

Figure 6. Recycled Cardboard and Electronics

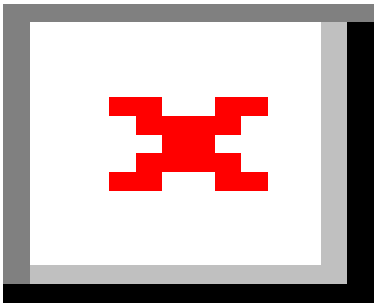

Figure 7. Small Quantity Recyclables

6.4 Energy Use Objectives

During 2007, SNL/CA's reduction target for energy use was two percent per year over a ten-year period starting in fiscal year 2006, using 2003 data as the baseline. This target was based on the goals established in the Energy Policy Act of 2005 (HR 2005).

In January 2007 with the issuance of Executive Order (EO) 13423 (see Section 3.2), more aggressive energy reduction goals were established for all federal agencies. EO 13423 sets a goal of three percent per year starting in fiscal year 2006, using 2003 data as the baseline. DOE is modifying its environmental protection program order (Order 450.1) to incorporate the goals established in EO 13423. Sandia expects the revised DOE Order 450.1 to become effective for

Sandia facilities in spring 2008. SNL/CA implementation includes an educational outreach to the site.

7 Quality Assurance

7.1 Program Risk Assessment

In January 2008, the Pollution Prevention Program completed a program risk assessment. The risk assessment identified three potential risks associated with Pollution Prevention.

1. Potential Risk of a Contaminated Container or Equipment Being Released to the Public Sector.

Given the large number of containers and the amount of equipment sent off-site, it is considered a High probability that a contaminated container or piece of equipment will be sent off-site at some point during the life of the facility.

The impacts of contact with a contaminated container or piece of equipment are considered Low.

A risk rating of Medium was calculated for this risk.

In response to the Medium risk rating the Pollution Prevention Program has worked with Waste Management, Reclamation and Facilities to identify recyclable types that have the highest potential to be chemically contaminated. The following measures have been implemented:

1.) Empty chemical containers are inspected and if applicable are placed into an access controlled collection bin.
2.) Scrap metals and excess equipment are surveyed for radioactive contamination and, if clean, are transported to LLNL for recycle.
3.) Facilities-generated construction debris is identified during the IDT process, and debris is surveyed for asbestos, lead, and other contaminates. Disposal for contaminated construction debris is handled on a case-by-case basis.

2 Mismanagement of Disposition of Equipment from an Outside Organization

Given the amount of equipment managed by other outside organizations and the potential for the lack of oversight, it is considered High that a piece of equipment could be mismanaged by an organization, internal or external, at some point during the life of the facility.

The mismanagement of a piece of equipment could result in a notice of violation or a fine from the State of California EPA-Department of Toxic Substances Control. SNL/CA could also lose its privileges to dispose of waste at the local landfill. The consequence is considered Low.

A risk rating of Medium was calculated for this risk.

In response to the Medium risk rating the Pollution Prevention Program has worked with Reclamation and Facilities to identify recyclable types that have the highest potential to be mismanaged specifically universal waste streams. The following measures were implemented:

1.) Universal waste training was provided to the technicians that implement the programs.
2.) Pollution Prevention oversees the contracts utilized to recycle these waste streams.

3. Reduction in Program Funding by 10%

During FY07 the P2 budget was changed from direct-funded program to indirect-funded program due to constraints on the direct-funded budget. Increasing constraints on site budgets is expected to continue for the next several years. Consequently, the probability that funding for the Pollution Prevention Program will decrease by 10% from FY 2008 levels is Medium.

A 10% decrease in program funding would result in the reduction of recycling onsite. This reduction would reduce the ability for SNL/CA Pollution Prevention to meet the goals of the DOE Order 450.1 and the Executive Order 13423 "Strengthening Federal Environmental, Energy and Transportation Management". Only those programs activities that are required by regulation such as Universal Waste would be conducted. The consequence is considered Medium.

A risk rating of Medium was calculated for this risk**.**

In response to the medium risk rating the Pollution Prevention Program would continue to implement all programs activities that are required by regulation such as Universal Waste. The P2 program will also develop a plan with management to determine how to meet the goals of the DOE Order 450.1 and the Executive Order 13423 with a further reduction of available resources.

The complete risk assessment is included in Appendix C.

7.2 Maintaining Program Quality

Pollution Prevention applies the following program-specific elements to assure quality is maintained in data collection, analyses, and reporting.

- Waste Generation/Recycling data is captured by WIMS and data is verified with Waste Management.
- Sanitary Waste data is matched to invoices and/or verbal verification of data is confirmed by Landfill or SNL/CA Maintenance staff.
- Affirmative Procurement data is reviewed and checked against the Staples and Corporate Express electronic ordering system, Pro Card purchases, catalog or suppliers.
- Internal reports and documents are subjected to internal review and technical editing before finalizing.

- Published reports are reviewed before finalizing by NNSA/SSO, applicable SNL/CA staff, and technical editors.

8 Program Assessments

The Pollution Prevention staff completes a self-assessment annually that includes two parts. Part 1 is an assessment of the mechanisms and workings of the program to include, but not necessarily limited to: program procedures; program web site, directory and other communications information; field infrastructure and signage; program documents; and program financials and contracts. This is an inward looking part of the assessment.

Part 2 is an assessment of the effectiveness of the environmental program as evidenced by compliance of requirements performed by the line. These assessments are discussed in Sections 8.2 and 8.3.

The Pollution Prevention program is assessed annually by the NNSA/SSO located in New Mexico with participation from the Sandia Site Office. SNL/CA did not receive any findings in 2007.

The DTSC audits Waste Management and Pollution Prevention annually. The Pollution Prevention aspect of the DTSC audit consists of a review of affirmative procurement practices, SB-14 Source Reduction Evaluation Review and Plan, and training as required by the Part B Permit. Pollution Prevention did not receive any findings in 2007.

The Alameda County Environmental Health Department audits the Waste Tire Manifest program. The Alameda County Environmental Health Department audited SNL/CA's Waste Tire Manifest program in September 2007. Pollution Prevention did not receive any findings in the audit.

8.1 Follow-up on 2006 Program Assessments

In 2006, Pollution Prevention assessed how the site managed its electronic waste. This assessment focused on line implementation and included a review of regulations, documentation, and processes. The assessment found SNL/CA as a site was inappropriately describing discarded equipment as an asset. This inaccurate determination resulted in the incorrect management of the recycling of cathode ray tubes (CRTs), fluorescent light tubes and electronic devices.

In 2007 Pollution Prevention modified the management of these waste streams to be in alignment with the universal waste requirements under Title 22 California Code of Regulations (CCR) Ch.23, "Universal Waste Management.

In 2007, Pollution Prevention developed processes with the appropriate SNL/CA's departments to correctly manage and implement the different electronic waste streams, trained applicable employees, established properly maintained storage areas, and notified the site of modifications to the electronic waste disposal process.

8.2 Program Mechanics

In 2007, Pollution Prevention completed a self-assessment that reviewed of all technical work documents, processes, and web pages. The results of this assessment are documented on the Annual Program Assessment Program Management form, Figure 8.

8.3 Line Performance Assessment

Pollution Prevention assessed the site's compliance with the requirements to purchase EPEAT computers and biobased products specifically penetrating oils and hydraulic fluids. The assessment included the two major computer vendors and SNL/CA Maintenance Operations. This assessment focused on line implementation and included a review of regulations, documentation, and processes. One minor finding was assigned as a result of this assessment. A copy of this part of the self-assessment is included in Appendix E. During 2008, Pollution Prevention will

- contact several petroleum companies to locate re-refined and/or bio-based products.
- will prepare and conduct training for Maintenance staff with procurement responsibilities. The training will include the types of products required to be bio-based and where they can be purchased.
- will review the weekly chemical purchases list to monitor purchases of oil based products and provide guidance as needed.

8.4 Environmental Program Representative Assessment

During 2007, Pollution Prevention worked with the Environmental Protection Representative (EPR) to correct concerns found during the EPR assessments. The EPR submitted a formal assessment to the line and notified Pollution Prevention of any concerns found during the assessments. The Pollution Prevention staff worked with the Line to mitigate concerns. The final resolutions are communicated to the EPR. Typical concerns found during 2007 included:

- Customer wanted recycling containers.
- Customer incorrectly recycling a waste stream.
- Customer unaware of recycling requirements.

8.5 Corporate / Line Self Assessment

During 2007, the corporate / line self assessment process did not assess any elements of the Pollution Prevention Program.

Figure 8. 2007 Annual Program Assessment Program Management

2007 Annual Program Assessment
Program Management

Organization: 8516 **Program: Pollution Prevention**

Date: 12/20/07 **Signature: Laurie Farren/Janet Harris (signature on file)**
Program Co-Leads

Document Type	Document Title	Review Complete / Date	Changes Made	Comments
Operating Procedures	AP800020 "Management of Waste Lamps at SNL/CA"	☒ 9/27/07	☒ Yes ☐ No	
	AP80002 "Management of Waste CRTs and Electronic Devices at SNL/CA" (DRAFT)	☒ 12/20/07	☒ Yes ☐ No	In review should be completed 1/08
	OP for General Recycling Activities needs to be finalized.	☒ 12/20/07	☐ Yes ☐ No	OP should be completed 1/08
PHS	Pollution Prevention/Waste Minimization Program Activities (SNL06A00127-001)	☒ 2/26/07	☒ Yes ☐ No	
Other Program Documents	Annual Waste Generation and Pollution Prevention Progress Report:	☒ 12/20/07	☒Yes ☐ No	
	Affirmative Procurement Report	☒ 12/20/07	☒ Yes ☐ No	
	Source Reduction and Evaluation Review and Plan (SB-14)	☒ 8/30/07	☒ Yes ☐ No	Karin King, LSO/DOE submitted report to DTSC Aug 30, 2007
	Annual Pollution Prevention/Waste Minimization Program Report	☒ 4/23/07	☒ Yes ☐ No	
	SNL Pollution Prevention Program Plan	☒9/28/07	☒ Yes ☐ No	
Web Pages	General Web Page	☒ 12/20/07	☐ Yes ☒No	Reviewed web page updates pending
	Program Web Pages	☒ 12/20/07	☐ Yes ☒ No	Reviewed web page updates pending
	Program Metrics	☒ 12/20/07	☒ Yes ☐ No	Reviewed web page updates complete

Figure 8. Annual Program Management Program Assesssment

9 Accomplishments

During 2007, Pollution Prevention accomplished the following activities:

- Attended the OFEE Environmental Symposium in Washington DC. SNL/CA P2 staff also attended the DOE EMS and P2 Workshop. At the workshop SNL/CA P2 staff received the P2 Star Award from DOE/HS for the application "Unique Approaches and Techniques Resulting in Rapid and Effective EMS Implementation at SNL/CA". SNL/CA had previously received in the year the Environmental Stewardship award from DOE/NNSA for this application.

- Attended workshop on Notification/Annual Reporting Requirements for Handlers/Recyclers of Universal Waste Electronic Devices and CRTs hosted by DTSC.

- Developed and implemented a recycling program for CRTs, Electronic devices and light tubes. Fact sheets for the line to manage these recycling waste streams have been prepared and are available. SNL/CA P2 worked with Maintenance to develop an operating procedure for the waste lamp process.

- Attended the California EPA-Department of Toxic Substances Control's (DTSC) "Source Reduction Compliance" training. The training provided information for preparing the 2007 SB 14 report. As performed previously, DOE/LSO managed all of the California DOE sites as one operation for this report, which was compiled and submitted by the DOE/LSO contractor. The SNL/CA P2 staff met several times with DOE/LSO, LLNL, LBL, and SLAC durng the preparation of the report. The final report was submitted to DTSC on August 30, 2007.

- Prepared and submitted DOE FY07 Waste Generation and Pollution Prevention Progress Report and the DOE FY07 Environmental Preferable Purchasing Report.

- Attended the Green California Summit and Exposition in Sacramento. SNL/CA staff obtained information about several bio-based products and received several samples of bio-based products at the Summit for Maintenance and the line to try.

- Developed and distributed a new brochure for Green Purchasing to the site specifically the OMAs and Procard holders.. The brochure discussed what is green purchasing , the list of EPA designated products and EPEAT requirements for purchasing electronic devices.

- Developed a Waste Management Plan for Planning and Construction Management. The plan was implemented during the decommissioning of Buildings 920 & 921.

- Obtained approval from the California state regulator, Department of Toxic Substance Control that classified hard drives proposed for destruction by SNL/CA meet the scrap metal exemption requirements.

- Hosted Ride Your Motorcycle to Work Day. Participants were provided pamphlets on commuting options. Approximately 30 Sandians and contractors rode their motorcycle, bike or scooter to work.

- Participated as a core member of the team that continues to evaluate and improve the process used for maintaining SNL/CA's Environmental Management System. The process was audited twice during 2007. The Pollution Prevention Program participated during both audits.

10 Trends

In 2007, California made changes to the existing Certified Appliance Recycling (CAR) program to clarify the criteria for recyclers to demonstrate their ability to properly remove and manage "materials that require special handling" from discarded major appliances. As of January 1, 2008, refrigerant service technicians who are certified under Section 608 of the Clean Air Act may remove refrigerants from discarded major appliances without being certified by DTSC to recycle appliances. The revised law makes it easier to remove refrigerant from HVAC units on buildings and from appliances.

Pollution Prevention conducted a line assessment in late 2007 (Appendix D). This assessment determined SNL/CA Maintenance has switched out many penetrating oil products to bio-based products. However, they have not been purchasing re-refined or bio-based oil for automotive operations. In 2008, Pollution Prevention will work with Maintenance to switch over to re-refined or bio-based oil for the automotive operations.

Increasing constraints on site budgets is expected to continue for the next several years. An evaluation of each recyclable waste stream is being performed. Pollution Prevention will recycle only those waste streams that are required or appropriate based on resources available. Pollution Prevention will continue to conduct program activities that are required by regulation, Sandia policy, technical work documents, or DOE/NNSA.

11 Goals and Objectives

Table 6 presents SNL/CA EMS objectives, targets, and actions that support the elements of the Pollution Prevention program. The selected targets and actions are intended to increase the procurement and use of environmentally friendly products and materials (one of the significant aspects under site's EMS program), minimize the quantity of solid waste disposed of through reduced consumption and/or recycling/reuse, and minimize site electrical and natural gas

consumption. In 2007 the targets for minimizing the generation of hazardous waste were retired and new targets were not developed.

Table 6. EMS Objectives, Targets, and Actions Supporting P2 Program Elements

Objective	Target	2007 Action Items Completed	2008 Action Items
Procure and use environmentally friendly products and materials	In FY07, purchases made by Affirmative Procurement Program will increase by 10% from a FY04/05 average.	Completed and target retired.	
	In FY10 purchases made by Affirmative Procurement Program will equal or exceed 96% of available procurements	New target	Continue to participate in Green Team meetings. Publish information about recycled products in TNTs, in the Administrative Professional Council (APC) newsletter and in the Communicator. Provide training to OMAs and Procurement on green purchasing.
	In FY09 100% of purchased general use computers will meet or exceed EPEAT silver requirements.	New target	Complete evaluation of companies from which SNL/CA purchases electronic products to determine if products meet EPEAT Silver requirements.
	By 2010 increase the recycled content of paper products purchased by 16% from a baseline year of 2006	New target	Investigate paper usage by Tech Art. Block paper products that do not meet recycled content requirements. Provide training to OMAs on requirements for recycled content for paper products.
Minimize the generation of hazardous waste.	In FY06, increase the recycling of empty containers by 20% from a FY04/05 average.	Completed and target retired.	

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Objective (cont.)	Target (cont.)	2007 Action Items Completed (cont.)	2008 Action Items (cont.)
Minimize the quantity of landfill waste through reduced consumption and/or recycling/reuse.	In FY06, increase the amount of paper that is recycled by 20% from a FY04/05 average.	Completed and target retired.	
	By the end of FY07 increase the number of recycling waste streams from 21 to 25	Completed and target retired	
	By October 1, 2010 decrease the amount of copy paper purchased by 5% from the FY05/06 average.	New target	Evaluate the types of copy paper being purchased and work with Procurement to block inappropriate items. Provide training to OMAs on paper usage. Investigate if printers can be set to double-sided as default.
	By the end of FY08 evaluate each recycling waste stream to assure cost effectiveness of recycling.		Complete an evaluation for each recycling waste stream for cost effectiveness.
	Seek to obtain FEC bronze award.		Conduct a review of electronic recycler. Modify procurement policies to ensure preference for environmentally preferable electronic products. Modify procurement policies to ensure preference for EPP electronic purchases. Complete and submit FEC application.
	In FY08 recycle 100% of the site's recyclable quality wood waste.	Completed and target retired	
	In FY08 recycle 100% of the site's recyclable quality concrete and asphalt waste.	Completed and target retired	
Minimize site electrical and natural gas consumption.	Achieve a 10% reduction in overall energy consumption in 2006 with respect to a 2004 baseline.	Retired target	
	Reduce energy used per square foot of building by 3% per year beginning in FY 2006 through FY 2015 with respect to a FY 2003 baseline	Continued to perform public/site-wide outreach to encourage reduction of electric and natural gas use	Change target to reflect SNL/NM ownership of the program and limited resources available at SNL/CA.

Appendix A Recycle/Reuse Waste Streams

The following waste streams are sent offsite for recycle, minimizing hazardous waste generation and waste sent to the local landfill and increasing many environmental benefits. It supports local recycling programs by creating markets for the collected materials that are processed and used to manufacture new products. It creates jobs and helps strengthen the economy, conserves natural resources; saves energy; and reduces solid waste, air and water pollutants, and greenhouse gases that contribute to global warming.

Waste stream	Disposition	FY2007-mt
Aluminum cans	Recycle	0.83
Asphalt/concrete	Recycle	936.7
Batteries	Recycle	2.31
Cardboard	Recycle	18.95
Carpet tiles	Recycle	6.36
Ceiling tiles	Recycle	0
CFC's	Recycle	0.24
Coolant	Recycle	0
Electronic waste	Recycle	22.9
Empty 55-gal drums	Recycle	0
Empty containers	Recycle	0.27
Fire extinguishers	Recycle	0
Fluorescent light tubes	Recycle	9.06
Gas cylinders	Recycle	0
Glass beverages	Recycle	0.62
Green waste	Composted	115.88
Lead	Recycle	0
Mercury-contaminated items	Recycle	0.05
Oil	Recycle	1.68
Oil filters	Recycle	0.25
Paper	Recycle	48.76
Pipette boxes	Recycle	0.09
Plastic beverage containers	Recycle	0.61
Precious metals	Recycle	0
Resin bottles	Recharged	0
Scrap metal	Recycle	185.49 .
Tires	Recycle	0.44
Toner cartridges	Remanufactured	2.12
Wallboard	Recycle	0
Wood	Recycle	16.36

Appendix B Current Program Staff Assignments

Pollution Prevention Program Assignments

Job Assignment	Personnel	Back-Up
Pollution Prevention Program Lead	Janet Harris	Laurie Farren
Pollution Prevention Project Lead	Laurie Farren	Janet Harris
Pollution Prevention Laborer	Doug Garceau	Maintenance Laborer
Communications Technologist-cell phones	Marcia Jacobs	None
Facilities Technologist-light tubes	Carlise Smith	None
Reapplication-CRTs and electronic devices	Harold Hernandez	None

Appendix C Pollution Prevention Program Risk Assessment

Pollution Prevention/Waste Minimization Program Risk Assessment (Jan 2008)

The risk assessment process for the Pollution Prevention/Waste Minimization Program follows the general steps of

1. Identify the risk
2. Identify the probability of the event occurring
3. Identify the consequence if the event occurs.

The following tables will be used to assign a numeric value to the probabilities and consequence categories.

Likelihood/Probability Of Occurrence Level	Likelihood/Probability Criteria
Very High	• Everything points to this occurring
High	*• High chance • Lack of relevant processes or experience contribute to a high chance of occurrence*
Medium	*• Even chance*
Low	*• Not much of a chance*
Negligible	• Negligible chance this will occur

CONSEQUENCE/ SEVERITY LEVEL	CONSEQUENCE/SEVERITY CRITERIA
High	*damage (e.g., ozone depletion, rad soil contamination) • Serious environmental impact resulting in recovery actions lasting 5 years or more (e.g., TCE in aquifer) • Results in General Emergency (affects both onsite and offsite) • Unsatisfactory rating by external regulators or cease and desist order • Affects lab leadership, including prime contract • Actions, inactions or events that pose the most serious threats to national security interests and/or critical DOE assets, create serious security situations, or could result in deaths in the workforce or general public (i.e., IMI-1)* ₁ *• Actions, inactions or events that pose threats to national security interests and/or critical DOE assets or that potentially create dangerous situations (i.e., IMI-2)* † *• Unallowable costs or fines >$1M • Adverse public opinion – high interest/widespread open public attention or debate (lasting weeks to months) • Customer dissatisfaction results in permanent loss of lab customer • Catastrophic failure to meet internal requirements* • Loss of major program within the division (>$10M)

Medium	*• Has the potential for adverse impact on Sandia's programmatic performance or the achievement of corporate strategic or operational objectives • Significant injury/illness -fully recoverable with a long recovery time • Significant environmental impact resulting in recovery actions lasting up to 5 years (e.g., major oil spill) • Results in Site/Area Emergency (affects multiple onsite facilities) • One of regulator "hot buttons" (e.g., NNSA, NMED) • Results in increased oversight of limited number of functions • Actions, inactions, or events that pose threats to DOE security interests or that potentially degrade the overall effectiveness of DOE's safeguards and security protection program (i.e., IMI-3) † • Unallowable costs or fines >$500K and <$1M • Adverse public opinion – moderate interest, limited PR problems of short duration (days) • Customer dissatisfaction results in partial loss of program • Significant failure to meet internal requirements* • Loss of program within division (>$1M)
Low	*• Minimal injury/illness – Fully recoverable with a short recovery time • Minimal environmental impact that can be improved within days • Results in increased short-term oversight • Results in an Operational Emergency (affects a single onsite facility) • Actions, inactions, or events that could pose threats to DOE by adversely impacting the ability of organizations to protect DOE safeguards and security interests (i.e., IMI-4) † • Unallowable costs or fines <$500K • Adverse public opinion with short-term local negative publicity or embarrassment*
Negligible	• Little or no attention, might be discussed as lesson learned

The risk level will be graded according to the following matrix. Adapted from DOE O 471.4.

RISK GRADING LEVELS					
		Consequence/Severity			
		Negligible	***Low***	***Medium***	***High***
Likelihood of Occurrence	***Very High***	*Low*	*Medium*	*High*	*High*
	High	*Low*	*Medium*	*High*	*High*
	Medium	*Low*	*Medium*	*Medium*	*High*
	Low	*Low*	*Low*	*Low*	*Medium*
	Negligible	*Low*	*Low*	*Low*	*Low*

Risks Associated with the Pollution Prevention/Waste Minimization Program

1. Release of Contaminated Container or Equipment

a. Identification of Risk

SNL/CA sends empty chemical containers off-site for recycling. Used equipment may also be sold or recycled. There is a chance that a chemical container could be recycled before it is empty, or that equipment contaminated with a chemical or radioactivity could be inadvertently sent off-site.

b. Probability of Occurrence

In the past, there has been at least one incident of radioactive material inadvertently being sent to the landfill.

Given the number of containers and the amount of equipment sent off-site, it is considered High that a contaminated container or piece of equipment will be sent off-site at some point during the life of the facility.

c. Consequence of Occurrence

Contact with a contaminated container or piece of equipment could result in minor injury to personnel handling such items. Minor cleanup of the receiving facility could also be a cost imposed on SNL/CA. SNL/CA could also lose its privileges to dispose of waste at the local landfill. The consequence is considered Low.

d. Overall Risk Category

In accordance with the chart above for a risk with a probability of High and a consequence of Low, the risk category is **Medium.**

2. Mismanagement of Disposition of Equipment from an Outside Organization

a. Identification of Risk

SNL/ CA Pollution Prevention (P2) assists other organizations, both internal and external, to recycle or dispose of equipment offsite. Some processes, such as electronic waste collection and disposition of equipment are not controlled by P2. The management of these processes by another organization allows for the chance that the disposition of the equipment may not be managed correctly. An example is if universal waste such as electronic waste is not managed under the universal waste regulations then it must be managed under hazardous waste regulations. Another example is if a piece of equipment is disposed of to the landfill with waste oil or solvents still present in it. If it is

not managed as required this could result in a notice of violation or a fine from the State of California EPA-Department of Toxic Substances Control.

b. Probability of Occurrence

Given the amount of equipment managed by other outside organizations and the potential for the lack of oversight, it is considered High that a piece of equipment could be mismanaged by an organization, internal or external, at some point during the life of the facility.

c. Consequence of Occurrence

The mismanagement of a piece of equipment could result in a notice of violation or a fine from the State of California EPA-Department of Toxic Substances Control. SNL/CA could also lose its privileges to dispose of waste at the local landfill. The consequence is considered Low.

d. Overall Risk Category

In accordance with the chart above for a risk with a probability of High and a consequence of Low, the risk category is **Medium.**

3. Reduction in Program Funding by 10%

a. Identification of Risk

SNL/ CA is experiencing pressure to reduce expenses for direct-funded and indirect-funded organizations, including Environmental Management. Because the majority of Pollution Prevention expenditures are labor and recycling programs, a 10% reduction in funding would impact staffing and recycling programs onsite.

b. Probability of Occurrence

During FY07 the P2 budget was changed from direct-funded to indirect-funded due to constraints on the direct-funded budget. Increasing constraints on site budgets is expected to continue for the next several years. Consequently, the probability that funding for the Pollution Prevention Program will decrease by 10% from FY 2008 levels is Medium.

c. Consequence of Occurrence

A 10% reduction in program funding could result in the cancellation of the recycling contracts paid for by the Pollution Prevention budget. These contracts include Data-Shred for paper shredding and AERC for the lamp recycling. Purchases for recycling containers would be eliminated. The P2 Laborer's labor would be reduced by 60%. This would result in the collection of recycling waste streams such as paper, beverage containers, cardboard, wood pallets to be significantly reduced and disposed of as solid waste. The

reduction in recycling would result in SNL/CA not meeting the goals of the DOE Order 450.1 and the Executive Order 13423 "Strengthening Federal Environmental, Energy and Transportation Management" which could impact the award fee for Lockheed Martin. Only those programs activities that are required by regulation such as Universal Waste would be conducted. Discretionary training and travel would be eliminated. The consequence is considered Medium.

d. Overall Risk Category

In accordance with the chart above for a risk with a probability of Medium and a consequence of Low, the risk category is **Medium.**

Appendix D Pollution Prevention Line Program Assessment

Self Assessment Report

EMS Waste Minimization and Pollution Prevention Self Assessment 2007

Assessment Number: 3456
Assessment Type: Line
Assessment Dates:
10/29/2007 - 12/20/2007

Prepared by:
HARRIS,JANET S. 12/20/2007
Org: 08516 Phone: 9252943803

Section 1 *Executive Summary*

1.1 Who/What was assessed
The Assessment reviewed the site's compliance with the requirements to purchase EPEAT computers and biobased products specifically penetrating oils and hydraulic fluids. The assessment included the two major computer vendors and SNL/CA Maintenance Operations.

1.2 Overview of Scope
1.) A review of the federal requirements for the purchases of bio-based and EPEAT products. An investigation of the purchasing process will also be conducted.
2.) A review of the purchases of bio-based and EPEAT products in FY07.
3.) Evaluate and determine if the SNL/CA purchases met the requirements.
4.) Develop and institute modifications to the purchasing of these products as needed.

1.3 Why Assessment was performed
Routine Pollution Prevention self assessment.

1.4 The Assessment resulted in the following:

0 Significant Finding(s)
1 Minor Finding(s)
0 Observation(s)
0 Noteworthy Practice(s)
1 None - Acceptable Practice(s)

One minor finding related to purchasing virgin oil products.
One acceptable practice related to site is meeting current EPEAT requirements.

1.5 What happens next
P2 will work with Maintenance Operations to correct the purchasing of non-compliant items specifically virgin oil.

1.6 Who to contact if there are questions
Janet Harris ext. 43803 and Laurie Farren 42573 are the contacts for this self assessment.

Section 2 *Introduction*

2.1 Background
SNL/CA is required to have 95% of their computer purchases meet EPEAT requirements. SNL/CA is required to purchase biobased products for the following items penetrating oil, fuel additives and hydraulic fluids.

2.2 Purpose of assessment
This assessment will examine if SNL/CA is meeting the federal requirements for purchasing bio-based products and EPEAT products.

2.3 Location(s) Assessed

Site - Area	Building/Structure	Room	Other
California	963	SHOP	

2.4 Planning Documents Reviewed
None

2.5 Scope/Criteria
ES&H » Environmental Protection » Pollution Prevention
ES&H » Program Management » Self-Assessments

Section 3 *Assessment Performance*

3.1 Assessment Team Members

Name	Org.	Role
HARRIS,JANET S.	08516	Lead Assessor
HARRIS,JANET S.	08516	Creator
FARREN,LAURIE J.	08516	Assessor

3.2 Personnel Interviewed

Name	Org.	Responsibility	Date	Phone
ORTEGA,ELEANOR	08513	Maintenance Purchasing	12/18/2007	294-4539

Notes: Ms. Ortega showed Ms Farren the types of bio-based products in their inventory. There are only a few residual penetrating oil based items remaining to be used in the current inventory. Once these are used up they will only be purchasing bio-based penetrating oil products.

SORIA,DWIGHT E.	08513	Maintenance Purchasing	12/18/2007	294-3336

Notes: Mr.Soria discussed with Ms. Farren the types of lubricants and cleaners purchased for Maintenance Ops during FY07. He stated they tried the bio-based samples provided by P2. They have substituted bio-based products i.e., penetrating oil and cleaners where appropriate. He also stated Maintenance had not been purchasing re-refined oil or bio-based oil products.

3.3 Documents Reviewed

None

3.4 Definitions

Finding: A statement of fact based on objective evidence documenting an act or condition that does not meet requirements, policies, or procedures required by law, a regulatory agency, DOE, Sandia CPR, or a

formally-invoked, site-specific, standard.

Significant Finding:
From self-assessments, any Finding that rate High or Medium in risk level (probability of occurrence and consequence criteria per the Enterprise Risk Management CPR) and requires formal causal analysis, corrective action planning, verification, and entry into CATS.

Additionally, any:
Issues (Findings) from Sandia's Independent Audit and Advisory Services Center;
Findings from internal, independent assessments (e.g., Weapon Quality Assessment.);
Issue identified as a corporate issue through the Corporate Issues Management Process.

Minor Finding: Any Finding from self-assessments that rate Low in risk level (probability of occurrence and consequence criteria per the Enterprise Risk Management CPR).

Observation: A statement of fact based on objective evidence documenting an act or condition that does not violate a requirement but may need improvement.

Noteworthy Practice: A process or condition indicating exceptional or innovative policy, practice, or performance.

None - Acceptable Practice: A process or condition with no observed problems.

Section 4 *Significant Findings*

This Assessment resulted in 0 Significant Finding(s).

Section 5 *Minor Findings*

This Assessment resulted in 1 Minor Finding(s).

Minor Finding No. 1

The review of Maintenance purchases indicated they have switched out many penetrating oil products to bio-based products. However, they have not been purchasing re-refined or bio-based oil for automotive operations. This oil product is also required by the Farm Security and Rural Investment Act, the Executive Order 13423, and DOE Order 450.1.

Trending Code: Procurement

Result Location(s):

Site - Area	Building/Structure	Room	Other
California	963	SHOP	

Result Criteria: ES&H » Environmental Protection » Pollution Prevention

Section 6 *Observations*

This Assessment resulted in 0 Observation(s).

Section 7 *Noteworthy Practices*

This Assessment resulted in 0 Noteworthy Practice(s).

Section 8 *None - Acceptable Practices*

This Assessment resulted in 1 None - Acceptable Practice(s).

None - Acceptable Practice No. 1

The team reviewed the computer purchases for FY07 from the two major vendors Holmans and TIG to determine the percentage of purchases that met EPEAT silver. The review determined the percentage of computers purchased from the two major vendors was 97%. The Executive Order 13423-Strengthening Federal Environmental, Energy, and Transportation Management and the DOE Order 450.1 Environmental Protection states the percentage of purchases that meet EPEAT requirements must be at least 95%. SNL/CA has met this requirement.

Section 9 *Improvement Action Details*

Minor Finding No. 1

The review of Maintenance purchases indicated they have switched out many penetrating oil products to bio-based products. However, they have not been purchasing re-refined or bio-based oil for automotive operations. This oil product is also required by the Farm Security and Rural Investment Act, the Executive Order 13423, and DOE Order 450.1.

Result Criteria: ES&H » Environmental Protection » Pollution Prevention

Part I - Improvement Action Report (IAR)		
Reference Identification No: #3456	**Improvement Action Request No:** #3456-MF1-IA1	**Issue Date:** TBD
Type: Further Action Required	**Owner** Name: HARRIS,JANET S.	Date: 12/20/2007
Assessee Mgr. Name: CLEVENGER,ROBERT J.		Organization: 08513
Assigned due date: 12/20/2007	**Estimated completion date:** 04/01/2008	**Actual completion date:** TBD
Comments: None		
Improvement action: P2 will contact several petroleum companies to locate re-refined and/or bio-based products. P2 will also prepare and conduct training for Maintenance staff with procurement responsibilities. The training will include the types of products required to be bio-based and where they can be purchased. P2 will also begin in January 2008 to review the weekly chemical purchases list to monitor purchases of oil based products and provide guidance as needed.		
Was a causal analysis conducted? no		
Name of manager or Delegate: CLEVENGER,ROBERT J.		

Part II - Improvement Action Action Verification (IAV)	
Actions taken to verify satisfactory completion: TBD	
Evaluation of improvement actions (satisfactory completion, not satisfactory / why): TBD	
Verified by: TBD	**Date of verification:** TBD